



U.S.A.

EPS ENVIRONMENTAL INCORPORATED

520 VICTOR STREET, SADDLE BROOK, NJ 07662

TEL: (201) 368-7902

FAX: (201) 368-8522

May 11, 1993

Mr. Brad Bradley
USEPA Region 5
Chicago, IL

Re: Granite City, Venice, IL.

Dear Mr. Bradley:

Thank you for returning my call yesterday, and your interest in our new technology. As we discussed, our interest will probably be in the stabilization of the slag pile. I would appreciate your reading of our overview and possibly some guidance in having our process reviewed for possible use on this site.

Yours Truly,



Leonard Train
VP Sales & Marketing

EPS

U.S.A.



U.S.A.

Tel: (201) 368-7902
Fax: (201) 368-8522

EPS ENVIRONMENTAL INC.
Environmental Management Specialists

LEONARD TRAIN
Vice President
Sales & Marketing

520 Victor Street
Saddle Brook, NJ 07662

EPS ENVIRONMENTAL INCORPORATED

Corporate Headquarters
520 Victor Street
Saddle Brook, New Jersey 07662

Telephone: 201-368-7902
Fax: 201-368-8522
1-800-MERCON-8

Transportation.
Disposal and
Beneficial Re-Use

Soil

Remediation

Mercury
Waste
Management

Quicksilver™

"A major international environmental breakthrough"

New Product Announcement

World Tec Industries, Inc., ("World Tec") announces a new product called *Quicksilver™* which will enable licensed and qualified contractors to carry out ex situ remediation of soils contaminated with heavy metals at substantial savings to customers. The new technology represents a major international breakthrough in environmental cleanup technology due to the following key benefits:

- *Quicksilver™* is cost effective.

Product cleanup cost is less than 50% of the fees related to hazardous landfill tipping fees and transportation costs.

- *Quicksilver™* surpasses technical requirements.

Field tests confirm that soils contaminated with heavy metals successfully pass TCLP tests to the level where metals are virtually undetectable.

Whether to reclaim ratable real estate or for compliance with EPA requirements, the ex-situ remediation of soils with *Quicksilver™* provides significant benefits for contractors, business owners, buyers, bankers and nearby community residents.



The Technology

In August 1992, World Tec announced a remediation process which had proven successful in bench tests treating soils contaminated with heavy metals so that the soils met the criteria for delisting. In January through March of 1993, the ongoing field tests further confirmed the lab results of the *Quicksilver*™ technology.

"Contaminated soil with heavy metal levels in excess of 650,000 ppb were reduced to virtually undetectable levels of 750 ppb. (EPA minimum guidelines are 5,000 ppb).

Licensing Contractors

World Tec will be licensing contractors of the *Quicksilver*™ product through-out the United States and Canada. These contractors have demonstrated evidence of volume tonnage and technical capability consistent with the objectives of the product usage. These contractors will receive preferred pricing based on volume requirements and training in the handling and followup requirements of the site for compliance purposes.

Individual Site Requirements

Contractors will supply World Tec with a representative sample of the contaminated soil. The custom *Quicksilver*™ compound will be formulated to suit the sample soil and contamination requirements. Successful TCLP tests and/or full RCRA scan tests using the custom *Quicksilver*™ compound will initiate a delivery order for the product to be shipped FOB to the cleanup site in the quantities required.



*Quicksilver*TM

Licensed Contractor Information Summary

Licensing Requirements

The following information must be on file with the Company:

- Signed non-disclosure agreement,
- Signed license agreement,
- An estimated volume purchase agreement and business plan, and
- Background information regarding experience and compliance with existing State & Federal regulations.

Equipment Requirements

Access to the following equipment is required:

- Excavating tools, backhoes, etc.,
- Crushing tools (for reducing soil size to less than 2 cm.),
- Conveyor system for moving soil through process,
- Pug mill or related soil mixing device, and
- Rotary kiln (for drying conditioned soil).



Quicksilver™ Process Description

Contaminated soil is treated in five steps:

- Step 1. Soil is removed by excavation to the treatment site where it is prepared by initial screening to remove coarse extraneous material such as large stones and wood. The excavated soil is crushed to reduce particle size to less than 2 cm. to assure maximum coverage of *Quicksilver™* reagents.
- Step 2. The moisture content is determined, and water, in the form of steam, is added to increase the moisture content to 25-35% and to increase soil temperature.
- Step 3. The conveyer system feeds the moistened soil and the *Quicksilver™* reagent into the pug mill for mixing.
- Step 4. After the mixing process, the soil is conveyed into a rotary kiln for moisture removal and drying the conditioned soil.
- Step 5. The treated soil is then returned to the excavation site.



Quicksilver™ Product Safety Information

The *Quicksilver™* formulation includes reagents which stabilize heavy metals in the contaminated soil and leave the soil with a balanced pH and biologic activity suitable for bacteria and plant life. Prior to mixing, the reagents in *Quicksilver™* are considered as an irritation to the skin, eyes, and mouth and should not be taken internally. If such an event should happen, flush the affected area repeatedly with water. Gloves and breathing apparatus should be worn to avoid contact with the reagent into areas that could be affected.

Contractor Pricing

Volume pricing levels are based on contractor commitment as follows:

Category 1 - \$85 per ton of contaminated soil - less than 1,000 tons annually.

Category 2 - \$75 per ton of contaminated soil - 1,000 to 5,000 tons annually.

Category 3 - \$65 per ton of contaminated soil - 10,000 tons annually.

In order to receive the lowest volume price per ton, a contractor must demonstrate evidence that such volume levels are reasonable and consistent with prior years levels. Specialty contractors who require additional compliance and handling may receive an additional charge.

Ongoing Tests and Support Data

World Tec will also provide an ongoing maintenance program whereby pulled samples from the site will be tested and recorded for EPA compliance purposes. This monitored information will be statistically acceptable to the compliance requirement that is part of the processing of test results for stability and ongoing health assurances. Soil testing will be monitored by World Tec before and after processing to assure quality control and compliance standards.



Representative Soil Samples

For each site, contractors will supply World Tec with a representative sample of the contaminated soil for testing of metal contamination, soil texture, pH levels, etc. The contractor will be billed for the TCLP tests and other tests that may be required. The TCLP tests will be passed with this sample. Upon confirmation of the TCLP test results, a request for *Quicksilver*TM formulation specific to the site requirements will be made.

QuicksilverTM Custom Mixing

Based on the information from the representative soil sample and the TCLP test results, World Tec will manufacture a *Quicksilver*TM custom formulation to the specific site soil and contamination requirements. A delivery schedule will be set at that time in coordination with the contractor cleanup plans.

Product Shipped FOB To Site

Freight and transportation costs will be borne by the contractor to the cleanup site from containerized truck(s) and or rail car(s) depending on the size of cleanup. World Tec will ship the *Quicksilver*TM reagents from Detroit, Michigan FOB at the outset. Additional transport sites are expected in the coming year.



SIERRA

April 6, 1993

Mr. Giulio Bonifacio
World Tee Industries, Inc.
308-1040 Hamilton St.
Vancouver, B.C. V6B 2R9
Canada

Re: Field Testing of Chemical Process to Stabilize Metal
Contaminants in Soil and Wastes

Dear Mr. Bonifacio,

Three sets of field tests have been completed. In each case the test results have met expectations.

Specifically:

- extremely hazardous lead contaminated soil (650 parts per million leachable) was treated in accordance with the chemical formula provided. After treatment the soil tested at .74 ppm leachable lead, well under the EPA actionable limit of 5 ppm.
- chromium contaminated soil (11 ppm leachable) was treated in accordance with the chemical formula provided. After treatment the soil tested below detectable limit for leachable chromium, obviously well under the EPA actionable limit of 5 ppm.
- soil contaminated with both hydrocarbons (gasoline) and lead (7.2 ppm leachable lead) was treated. The leachable lead was reduced to .11 ppm, indicating the chemical reaction was not hindered by the presence of hydrocarbons.

The success of the test allows us to support your efforts in marketing the process. We have begun proposing to our clients that they consider this alternative for their soil remediation projects.

The ease of application along with the effectiveness of the treatment and the competitive price should allow rapid acceptance of the product into the environmental contracting industry. The market for remediation is growing which creates a corresponding demand for efficient solutions.

Additional reports will follow as time permits.

Sincerely,
SIERRA ENVIRONMENTAL INC.

Austin Marshall
Austin Marshall, P.E., P.G.
President

